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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/891,326	06/27/2001	Glenn Knight	T8466414US	3656
7590 10/04/2004 Gowling Lafleur Henderson LLP Suite 4900 Commerce Court West Toronto, ON M5L 1J3 CANADA			EXAMINER TRAN, HIEN THI	
			ART UNIT 1764	PAPER NUMBER
DATE MAILED: 10/04/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/891,326	KNIGHT, GLENN	
	<b>Examiner</b>	<b>Art Unit</b>	
	Hien Tran	1764	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/15/01&amp;12/05/02</u> .   | 6) <input type="checkbox"/> Other: ____.                                    |

**DETAILED ACTION*****Drawings***

1. The drawings are objected to because in Fig. 6, "43" should be changed to --42-- (note page 5, line 22). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the drawings to comply with CFR 1.84(p)(5), e.g. they should include the reference sign(s) mentioned in the specification and vice versa.

***Specification***

3. The disclosure is objected to because of the following informalities:

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On page 6, line 2 --or catalyst bed-- should be inserted before "18" (note page 4, line 22).

On page 7, line 7 --or assembly-- should be inserted before "40" (note page 5, line 19); in line 8 "16" should be changed to --18-- (note page 6, line 2 and page 4, line 22); in line 9 --or assembly-- should be inserted before "50" (note page 6, line 1).

Appropriate correction is required.

4. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

#### ***Claim Objections***

5. Claims 1, 6, 9, 12, 14-15 are objected to because of the following informalities:

In claim 1, line 4 --said-- (second occurrence) is misspelled; in lines 12 and 13 "reactor" should be changed to --catalyst--. See claims 6, 9, and 14-15 likewise.

In claim 12, line 2 "bed" should be changed to --catalyst-- (note claim 6).

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 4, (5-6)/4, 8-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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In claim 4, it is unclear as to how both of the inlet and outlet passages can extend through an end of the housing since one of the passages must extend through a side of the housing as set forth in claim 2.

In claim 8, it is unclear as to whether the second end is the end set forth in claim 2, line 2.

In claim 9, it is unclear as to what structural limitation applicant is attempting to recite as it appears to be redundant (note claim 6/4).

In claim 12, line 2 "said reducing bed" and "said oxidizing bed" have no clear antecedent basis.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claim 1 is rejected under 35 U.S.C. 102(a) as being anticipated by Bemel (6,159,429).

Bemel discloses a catalytic muffler comprising: a housing having a first chamber 39, and a second chamber 41 fluidly communicating through a catalyst bed interspersed therebetween; a first baffle assembly 35-36 in said first chamber 39 extending between the housing and the catalyst bed; an inlet passage extending through said housing into said first chamber; an outlet passage extending through said housing into said second chamber; a second baffle assembly 35-36 in said second chamber 41 extending between the catalyst bed and the housing; said first and second baffle assemblies acting in conjunction with said housing and said catalyst bed to define a

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flow passage through said housing from the inlet passage through at least three discreet zones 42, 43, 44 of the catalyst bed to said outlet passage.

Instant claim 1 structurally reads on the apparatus of Bemel.

10. Claim 1 is rejected under 35 U.S.C. 102(a) as being anticipated by Hass (3,832,443).

Hass discloses a catalytic muffler comprising: a housing 2 having a first upper chamber, and a second lower chamber fluidly communicating through a catalyst bed interspersed therebetween; a first baffle assembly 12 in said first chamber extending between the housing and the catalyst bed; an inlet passage 4 extending through said housing 2 into said first chamber; an outlet passage 6 extending through said housing into said second chamber; a second baffle assembly 12 in said second chamber 41 extending between the catalyst bed and the housing; said first and second baffle assemblies acting in conjunction with said housing and said catalyst bed to define a flow passage 18 through said housing from the inlet passage 4 through at least three discreet zones of the catalyst bed to said outlet passage 6.

Instant claim 1 structurally reads on the apparatus of Hass.

11. Claim 1 is rejected under 35 U.S.C. 102(a) as being anticipated by WO 97/43528.

WO 97/43528 discloses a catalytic muffler comprising: a housing 1 having a first chamber 23, and a second chamber 24 fluidly communicating through a catalyst bed interspersed therebetween; a first baffle assembly 8 in said first chamber extending between the housing and the catalyst bed; an inlet passage 2 extending through said housing into said first chamber; an outlet passage 3 extending through said housing into said second chamber; a second baffle assembly 29 in said second chamber 24 extending between the catalyst bed and the housing; said first and second baffle assemblies acting in conjunction with said housing and said catalyst bed

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to define a flow passage through said housing from the inlet passage 2 through at least three discreet zones of the catalyst bed to said outlet passage 3 (page 2, lines 29-34; page 17, lines 1-13).

Instant claim 1 structurally reads on the apparatus of WO 97/43528.

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. The art area applicable to the instant invention is that of catalytic muffler.

One of ordinary skill in this art is considered to have at least a B.S. degree, with additional education in the field and at least 5 years practical experience working in the art; is aware of the state of the art as shown by the references of record, to include those cited by applicants and the examiner (*ESSO Research & Engineering V Kahn & Co*, 183 USPQ 582 1974) and who is presumed to know something about the art apart from what references alone

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teach (*In re Bode*, 193 USPQ 12, (16) CCPA 1977); and who is motivated by economics to depart from the prior art to reduce costs consistent with the desired product characteristics. *In re Clinton* 188 USPQ 365, 367 (CCPA 1976) and *In re Thompson* 192 USPQ 275, 277 (CCPA 1976).

15. Claims 2-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 97/43528 in view of FR 2,226,865.

With respect to claims 2-4, 8, the apparatus of WO 97/43528 is substantially the same as that of the instant claims, but fails to disclose whether at least one of the inlet and outlet passages may extend through a side of the housing.

However, FR 2,226,865 discloses the conventionality of providing a muffler in which at least one of the inlet and outlet passages extends through a side or end or ends of the housing.

It would have been obvious to one having ordinary skill in the art to alternately select an appropriate location for at least one of the inlet and outlet passages, such as the ones taught by FR 2,226,865 in the apparatus of WO 97/43528 on the basis of its suitability for the intended use as a matter of obvious design choice, absence showing any unexpected results thereof, and since such is conventional in the art as evidenced by FR 1,226,865 and no cause for patentability here.

With respect to claims 5, 7, 11, 13, WO 97/43528 discloses that the housing is cylindrical.

With respect to claims 6, 9-10, 12, WO 97/43528 discloses that the catalyst bed including an oxidizing catalyst in one part and a reducing catalyst in another part (page 17, lines 1-13).

16. Claims (14-15)/1 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 97/43528 in view of Harris (4,601,168) and White et al (5,578,277).



The apparatus of WO 97/43528 is substantially the same as that of the instant claims, but fails to disclose the specific parts of the housing as claimed.

However, Harris discloses that the housing comprises cup shaped first and second parts joined at respective outer edges to a sleeve (Fig. 1).

White et al discloses that the housing comprises cup shaped first and second parts joined at respective outer edges (Figs. 4-5).

It would have been obvious to one having ordinary skill in the art to provide a housing with first and second parts as taught by Harris and White et al in the apparatus of WO 97/43528, on the basis of its suitability for the intended use as a matter of obvious design choice, absence showing any unexpected results thereof and since it has been held that forming in two pieces an article which has formerly been formed in one pieces involves only routine skill in the art. Howard v. Detroit Stove Works, 150 U.S. 164 (1893).

17. Claims (14-15)/2 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 97/43528 in view of FR 2,226,865 as applied to claim 2 above, and further in view of Harris (4,601,168) and White et al (5,578,277).

The same comments with respect to Harris and White et al apply.

### ***Double Patenting***

18. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground

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provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

19. Claim 1 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2, 9-10 of U.S. Patent No. 6,622,482. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are directed to the same conceptual invention.

20. Claims 2-13 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2, 9-10 of U.S. Patent No. 6,622,482 in view of WO 97/43528 and FR 2,226,865.

The same teachings of WO 97/43528 and FR 2,226,865 apply.

21. Claims (14-15)/1 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2, 9-10 of U.S. Patent No. 6,622,482 in view of Harris (4,601,168) and White et al (5,578,277).

The same comments with respect to Harris and White et al apply.

22. Claims (14-15)/2 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2, 9-10 of U.S. Patent No. 6,622,482 in view of WO 97/43528 and FR 2,226,865 as applied to claim 2 and further in view of Harris (4,601,168) and White et al (5,578,277).

The same comments with respect to Harris and White et al apply.

***Conclusion***

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Knight is cited for showing state of the art.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is (571) 272-1454. The examiner can normally be reached on Tuesday-Friday from 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HT  
September 30, 2004

*Hien Tran*  
**Hien Tran**  
**Primary Examiner**  
**Art Unit 1764**